Poles Incorporated Site
Integrated Assessment Report
Oldtown, Idaho
TDD: 01-07-0007

Contract: 68-S0-01-01
January 2002

Region 10

START-2

Superfund Technical Assessment and Response Team Two

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POLES INCORPORATED SITE
INTEGRATED ASSESSMENT REPORT
OLDTOWN, IDAHO

TABLE OF CONTENTS

TABLE OF CONTENTS (CONTINUED)

TABLE OF CONTENTS (CONTINUED)

TABLE OF CONTENTS (CONTINUED)

LIST OF APPENDICES

LIST OF TABLES

LIST OF FIGURES

LIST OF ACRONYMS

Acronym	Definition
% R	percent recovery
AATS	American Analytical and Testing Services
AC	adjusted concentration
AST	aboveground storage tank
ASTM	American Society for Testing and Materials
ATSDR	Agency for Toxic Substances and Disease Registry
B	less than the CRDL but greater than the instrument detection limit
bgs	below ground surface
BHC	benzene hexachloride
CEI	Compliance Evaluation Inspection
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980 (Superfund)
CFR	Code of Federal Regulations
Chemtech	Chemtech Consulting
CLP	Contract Laboratory Program (EPA)
CLPAS	Contract Laboratory Program Analytical Service
CRDL	Contract Required Detection Limit
CRQL	Contract Required Quantitation Limit
DDD	dichlorodiphenyldichloroethane
DDE	dichlorodiphenyldichloroethylene
DDT	dichlorodiphenyltrichloroethane
DQOs	data quality objectives
E & E	Ecology and Environment, Inc.
EC	estimated concentration
Envirosystems	Envirosystems, Inc.
EPA	United States Environmental Protection Agency
F	Fahrenheit
ft^2	square feet

LIST OF ACRONYMS (CONTINUED)

Acronym	Definition
GPS	Global Positioning System
H	high bias
HRS	Hazard Ranking System
IA	Integrated Assessment
IDEQ	Idaho Department of Environmental Quality
IDHW	Idaho Department of Health and Welfare
IDW	investigation-derived waste
J	estimated quantity
K	unknown bias
L	low bias
MCL	Maximum Contaminant Level
MCS	Mountain Construction Services
MET	meteorological
mg/kg	milligrams per kilogram
mph	miles per hour
MS/MSD	matrix spike/matrix spike duplicate (sample)
N	tentatively identified
No.	Number
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
OSC	On-Scene Coordinator
OSE	OnSite Environmental, Inc.
PA	preliminary assessment
PAH	polynuclear aromatic hydrocarbon
PCBs	polychlorinated biphenyls
PCP	pentachlorophenol
Pesticides	Chlorinated Pesticides
PI	Poles Incorporated
PPE	probable point of entry

LIST OF ACRONYMS (CONTINUED)

Acronym	Definition
PRGs	EPA Region 9 Preliminary Remediation Goals
Q	less than the CRQL
QA/QC	quality assurance/quality control
R	rejected
R^2	correlation coefficient
RA	removal assessment
RCRA	Resource Conservation and Recovery Act (EPA)
RPD	relative percent difference
School	Idaho Hill Elementary School
SI	Site Inspection
SOP	standard operating procedure
SPCC	Spill Prevention Control and Countermeasures
SQAP	sampling and quality assurance plan
SQL	sample quantitation limit
START	Superfund Technical Assessment and Response Team (EPA)
STL	Severn-Trent Laboratory
SVOCs	semivolatile organic compounds
TAL	Target Analyte List (CLP)
TDD	Technical Direction Document
TDL	Target Distance Limit
TP	Treatment Plant
TPHs	total petroleum hydrocarbons
U	not detected
UJ	estimated detection/quantitation limit
USCS	Unified Soil Classification System
µg/m^3	micrograms per cubic meter
µg/kg	micrograms per kilogram
µg/L	micrograms per liter
VOCs	volatile organic compounds

POLES INCORPORATED SITE
INTEGRATED ASSESSMENT REPORT
OLDTOWN, IDAHO

1. INTRODUCTION

The United States Environmental Protection Agency (EPA) has tasked Ecology and Environment, Inc. (E & E) to provide technical support and conduct an Integrated Assessment (IA) at the Poles Incorporated (PI) site located in Oldtown, Idaho. E & E completed the IA activities under Technical Direction Document (TDD) Number 01-07-0007 issued under EPA, Region 10, Superfund Technical Assessment and Response Team (START)-2 Contract Number 68-S0-01-01.

The specific goals for this IA, intended to address both removal assessment (RA) and site assessment objectives, are presented below:

- Conduct a RA of potentially contaminated soil, surface water, sediment and groundwater located at the site;
- Collect and analyze samples to characterize the potential sources discussed in Section 6;
- Determine off-site migration of contaminants;
- Conduct a Spill Prevention Control and Countermeasures (SPCC) inspection;
- Provide EPA with adequate information to determine whether the site is eligible for placement on the National Priorities List (NPL);
- Document threats or potential threats to public health or the environment posed by the site; and
- Determine whether removal actions are warranted.

Completion of the IA included reviewing site information, determining waste characteristics, collecting receptor information within the site's range of influence, executing a site-specific sampling plan and producing this report.

This document includes site background information (Section 2), field sampling activities and analytical protocols (Section 3), quality assurance/quality control (QA/QC) criteria (Section 4), analytical results reporting and background sampling (Section 5), potential sources (Section 6), migration/exposure pathways and targets (Section 7), removal assessment discussion (Section 8), summary and conclusions (Section 9) and references (Section 10).

2. SITE BACKGROUND

This section describes the site location (Section 2.1), site description (Section 2.2), site ownership history (Section 2.3), site operations and waste characteristics (Section 2.4), site characterization (Section 2.5) and summary of IA investigation locations (Section 2.6).

2.1 SITE LOCATION

Site Name:	Poles Incorporated
CERCLIS ID Number (No.):	IDD009061714
Location:	101 North Idaho Avenue Oldtown, Idaho 83822
Latitude:	48° 10' 53.8" North
Longitude:	117° 02' 04.6" West
Legal Description:	NE ¼ of NW ¼, Section 25, Township 56 North, Range 6 West Willamette Meridian
Site Owner:	Poles Incorporated 101 North Idaho Avenue Oldtown, Idaho 83822 (208) 437-4115
Company President/ Site Contact:	Reid Tinling Poles Incorporated Post Office Box 12416 Scottsdale, Arizona 85267-2416 (602) 359-4229

2.2 SITE DESCRIPTION

The PI facility is an active wood-treating business located within the city limits of Oldtown, Idaho, at the intersection of North Idaho Avenue and Idaho State Highway 41 (Figure 2-1; TopoZone 2000). The treatment plant (TP) at the facility is located approximately 400 feet south of the Pend Oreille River

in Bonner County, Idaho (Figure 2-2). The property encompasses approximately 15 acres, most of which is used for treated and untreated utility pole storage. The Pend Oreille River is located adjacent to the northern and eastern property boundaries of the facility. The Idaho Hill Elementary School (School) and residences border the south side of the property and a mix of residences and small retail businesses border the west side of the property. The Pend Oreille Valley Railroad operates an east-west line through the site and hauls treated and untreated wood products through the site area approximately twice a day (Figure 2-2; E & E 2001a).

Site features include the TP shed (with above ground storage tanks and associated piping, pumps and control systems), thermal dip tank, office building, garage, boiler building, wood waste disposal area, peeler and pole yard (Figure 2-2). The peeler is located south of the TP area; the pole storage areas are located to the south and west of the TP; the office building and wood waste disposal areas are located west of the TP; and the boiler building is located north of the TP (Figure 2-2; E & E 2001a). The TP shed, a fenced roofed structure with open sides, encloses one 10,000-gallon aboveground storage tank (AST) and three 20,000-gallon ASTs used for wood-treating oil storage. Blocks of solid pentachlorophenol (PCP) are also stored in the shed on a concrete pad. The facility also has 3,500-gallon and 1,000-gallon diesel tanks that fuel the boiler and one 1,000-gallon gasoline fuel supply tank. These aboveground tanks are located within concrete vaults or inside the boiler building and appear to have adequate secondary containment. Approximately ten 55-gallon oil storage drums are at various locations around the property. None of the drums have adequate secondary containment. The garage, office and boiler building have been added since 1945, in addition to some of the oil storage tanks (Tinling 2001).

All oil storage tanks are aboveground except the dip tank. This partially below ground tank is located immediately south of the TP shed and has dimensions of approximately 95 feet by 8 feet by 12 feet deep with a capacity of approximately 68,000 gallons. The dip tank does not have any secondary containment. The dip tank cover helps prevent precipitation from entering the tank which in turn helps to reduce the production of sludge (EPA 1993).

Due to the proximity of the oil storage tanks to the Pend Oreille River, a SPCC inspection was requested by the EPA On-Scene Coordinator (OSC) as part of the IA. The limited secondary containment wall around the TP ASTs is constructed with soil mounded against treated poles. START-2 personnel observed gaps between the containment wall poles. The native soil floor inside the secondary containment area does not have a maintained and engineered liner and is not impervious to oil, therefore

the TP secondary containment was determined to be inadequate. Findings from the SPCC inspection, including additional violations, are included in Appendix A.

2.3 SITE OWNERSHIP HISTORY

PI has been owned and operated by the Tinling family at this location since 1945 (E & E 2001a). Prior to 1945, the land was owned by the Great Northern Railroad; operations prior to 1945 are unknown (Tinling 2002). The current President of PI is Reid Tinling. Daily operations are overseen by Dan Duley, the facility manager and a pesticide applicator licensed by the State of Idaho (Number 11539) for wood preserving products.

2.4 SITE OPERATIONS AND WASTE CHARACTERISTICS

Wood preserving chemicals which have been and are currently used at this facility include a 5 % PCP in Imperial Pole Treating Oil-solution as a wood preservative in an open vat thermal treatment process (E & E 2001a). Blocks of solid PCP are added to the oil in the dip tank to maintain the 5 % concentration. The oil is stored in the adjacent TP ASTs and is pumped into the dip tank as needed for the treatment process. The poles are treated by either placing the entire length of the pole in the tank or by standing the pole in the tank to treat only the butt-end of the pole. To reduce air emissions, the lids of the dip tank are closed when not in use or when treating the entire length of the pole. When butt-end treatment occurs, a wrap is placed around the poles for air emission reduction.

Prior to treatment, bark is removed from the logs by the peeler. The pole is then placed in the dip tank and the treating solution is pumped into the tank at 60 degrees Fahrenheit (F). The treating solution is pumped through a heat exchanger (an oil-fired boiler) for approximately 3.5 hours until the temperature reaches 225 degrees F. The heated oil is maintained in the dip tank for an additional 3.5 hours before it is drained back into the ASTs. Cool oil is then pumped into the tank to cool the poles. After approximately one hour, the dip tank oil is pumped back into the ASTs and the poles are allowed to drip the excess oil for several hours. Once dry, Pettibones and a crane are used to move poles to the treated pole storage area until shipment.

The facility typically treats approximately 150 poles per batch once a week, with a maximum production of 2.5 batches per week (E & E 2001a). The facility is in operation 8 hours per day, five days per week, with an annual plant closure in December, January and February (E & E 2001a).

The site is not paved and there is no engineered surface water drainage system (E & E 2001a). Storm water runoff follows natural drainage patterns or drains into the sandy soil. PI has a National Pollutant Discharge Elimination System (NPDES) permit (Number IDR05A497; Tinling 2001) because of the uncontrolled surface water runoff to the Pend Oreille River. The permit requires quarterly storm water discharge sample collection. The samples are visually inspected and the appearance is recorded by PI employees.

2.5 SITE CHARACTERIZATION

This section includes a list of inspections, investigations and actions performed prior to the IA.

2.5.1 Previous Investigations

The following list summarizes previous inspections, investigations and actions performed at the PI site:

- A Site Inspection (SI) performed by the EPA in 1980;
- A Preliminary Assessment (PA) performed by Idaho Department of Health and Welfare (IDHW)-Division of Environment in 1984;
- A PA performed by Idaho Hazardous Materials Bureau for the EPA in 1985;
- A SI Reassessment performed by E & E for the EPA in 1988;
- A Resource Conservation and Recovery Act (RCRA) Compliance Evaluation Inspection (CEI) in 1993;
- An EPA RCRA CEI in 2000;
- Idaho Department of Environmental Quality (IDEQ) Sample Collection in May 2001; and
- An evaluation of potential PCP air contamination prepared by IDHW, Bureau of Environmental Health and Safety, Division of Health under cooperative agreement with the U.S. Agency for Toxic Substances and Disease Registry in 2001.

2.5.1.1 1980 EPA SI

In September 1980, a SI was performed by the EPA. The report indicated that the approximately 15-acre PI site included three office buildings and two work sheds and provided initial site information. The inspection report concluded that the facility was unlikely to produce hazardous wastes that might leave the site, however, samples were not collected during this SI. (EPA 1980)

2.5.1.2 1984 IDHW-Division of Environment PA

In July 1984, a PA report was generated by the IDHW-Division of Environment. This off-site file review corrected the address of the facility from a previous report and briefly summarized all PI site information available at the time. (IDHW 1984)

2.5.1.3 1985 Idaho Hazardous Materials Bureau PA

In May 1985, a PA was conducted by the Idaho Hazardous Materials Bureau. Based on information obtained during this PA, a SI was proposed to be conducted at a later date. (IHMB 1985)

2.5.1.4 1988 EPA SI Reassessment

In April 1988, a file review was conducted by the EPA to assess the completeness of the previously conducted SI. A preliminary Hazard Ranking System (HRS) score was also calculated from site file and additional information. Sample collection and a site visit were not performed for this reassessment. (EPA 1988a)

2.5.1.5 1993 RCRA CEI

A RCRA CEI was performed on September 9, 1993, by EPA and IDEQ inspectors to assess PI compliance with state and federal hazardous waste rules and regulations. Howard Fiedler, the PI facility manager at that time, explained facility operations and gave a tour of the facility. PI uses PCP to treat utility poles using a thermal process. Raw logs are peeled, drilled and framed, then stored until they reach the correct moisture content. The poles are then soaked in a dip tank containing a hot mixture of carrier oil and PCP. After treatment, the poles rest on steel rails six inches above the tank bottom to prevent the poles from laying in the oil as the dip tank cannot be completely pumped dry. (EPA 1993)

According to Mr. Fiedler, the dip tank is kept covered except when adding or removing the poles. By keeping precipitation out, sludge would not form or accumulate in the tank. Mr. Fiedler stated that he has never cleaned the dip tank and that no hazardous waste or similar material had ever been manifested or disposed off site. (EPA 1993)

2.5.1.6 2000 EPA RCRA CEI

A RCRA CEI was performed on October 24, 2000, by an EPA inspector to assess PI compliance with state and federal hazardous waste rules and regulations. Howard Fiedler gave the inspector an explanation of the facility operations and a tour of the facility. (EPA 2000a)

There are no drip pads at the PI facility. All drying and dripping occurs within the drained treatment tanks. According to Mr. Fiedler, because the wood is already stripped clean prior to treatment, there is little if any sludge accumulation at the bottom of the dip tank. The treating oil is delivered directly from a refinery and is specially formulated for the wood-treating industry. PCP is purchased and stored in solid block form inside the locked fence surrounding the treatment shed. The solid PCP blocks are heated to greater than 200 degrees F to dissolve in the oil. (EPA 2000a)

2.5.1.7 2001 IDEQ Sample Collection

In May 2001, IDEQ personnel collected 11 surface soil samples from the PI facility, the School and a background location for polynuclear aromatic hydrocarbon (PAH) and PCP analysis. Six samples were collected between 120 feet and 370 feet of the dip tank as five-point composite samples. The other five samples were collected as discrete grab samples. Sample results indicated PAH and PCP contamination greater than EPA Region 9 Preliminary Remediation Goals (PRGs) for industrial soil at the PI facility between 120 feet and 220 feet of the dip tank. (IDEQ 2001)

2.5.1.8 2001 IDHW Air Investigation

The draft report entitled “Evaluation of Potential Pentachlorophenol Air Contamination Based on the Idaho Department of Environmental Quality Air Modeling Results” was prepared by the Bureau of Environmental Health and Safety, Division of Health, Idaho Department of Health and Welfare in July 2001. Due to the absence of site-specific air monitoring data, the IDHW used a computer modeling technique to estimate potential PCP concentrations in the outdoor air adjacent to the PI facility. This draft report concluded that the PCP concentrations around the School and nearby residences were considered

an indeterminate public health hazard and recommended air monitoring to adequately address health concerns. (IDHW 2001)

2.6 SUMMARY OF IA INVESTIGATION LOCATIONS

The EPA became involved in an investigation of the PI facility due to a citizens' petition and at the request of the IDEQ. Based on a review of historical and background information and discussions with site representatives, areas and features within the site were identified for investigation during the IA as potential Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) hazardous substance sources. In addition, on- and off-site locations were identified as possible receptors of contamination originating from these sources. These potential sources and receptors are listed below.

Potential Sources:

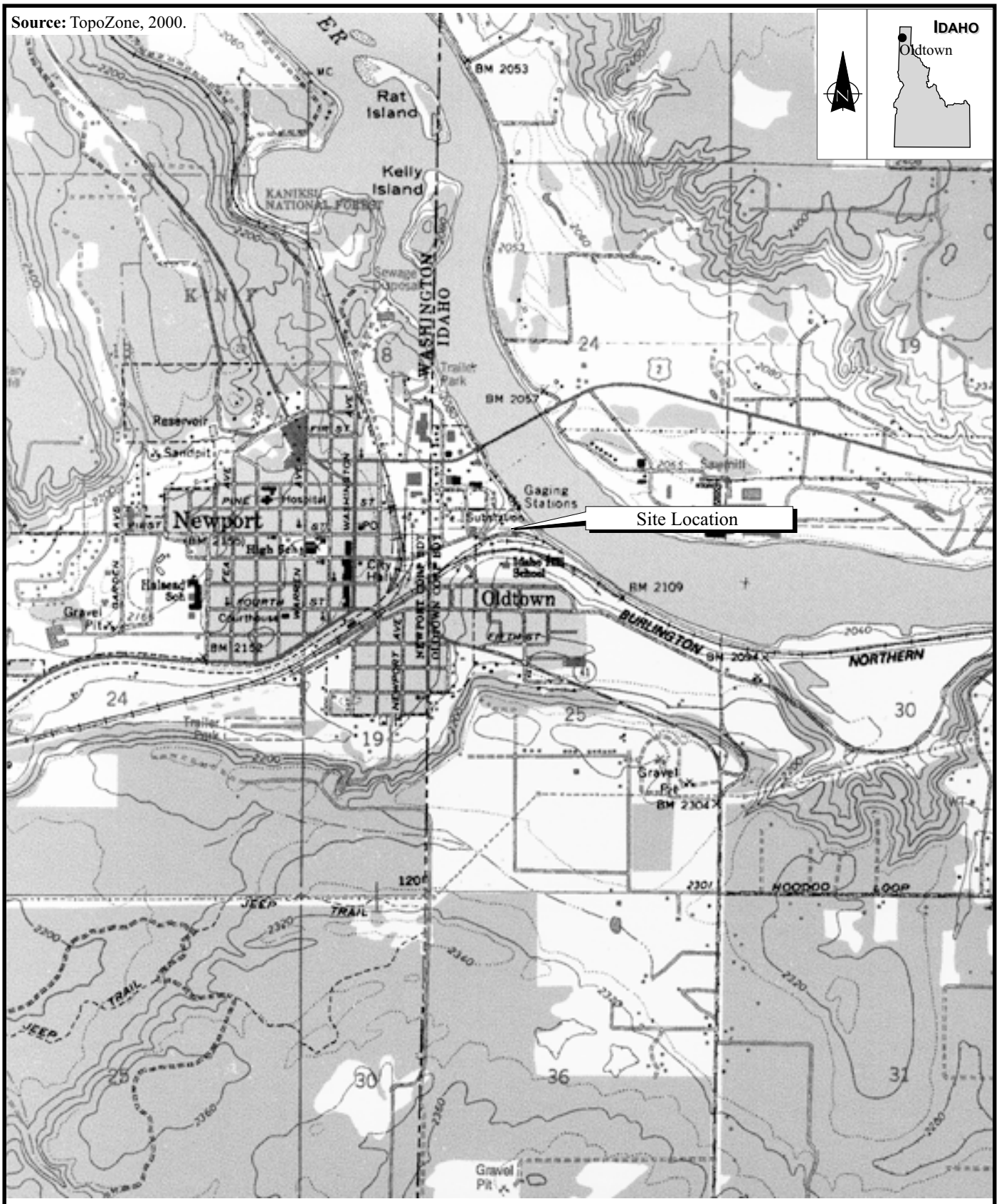
- **Pole Yard.** Treated wood is stored over exposed soil in areas south and west of the treatment shed. Potential soil contamination in this area may be from the dripping of excess oil from treated poles. Contaminants from the TP and treated pole storage areas may have migrated to the untreated pole storage areas on the tires of the Pettibones, which are used to transport both treated and untreated poles. Potential contaminants of concern include chlorinated pesticides and polychlorinated biphenyls (Pesticides/PCBs), semivolatile organic compounds (SVOCs), volatile organic compounds (VOCs) and target analyte list (TAL) inorganics.
- **Treatment Plant.** Wood-treating operations occur in this area. The PCP-oil solution is used during wood-treating operations and is stored in the TP ASTs. Other features include the dip tank and associated piping and solid PCP blocks. Product in the tanks may have migrated into site soils and underlying groundwater through periodic spills and leaks from the tanks and through the application of the oil to the wood products. Emissions from the dip tank during treating may be migrating from the facility to the School and nearby residences. Potential contaminants of concern in the TP area are Pesticides/PCBs, SVOCs, TAL inorganics, VOCs and Total Petroleum Hydrocarbons (TPHs).

Potential Receptors:

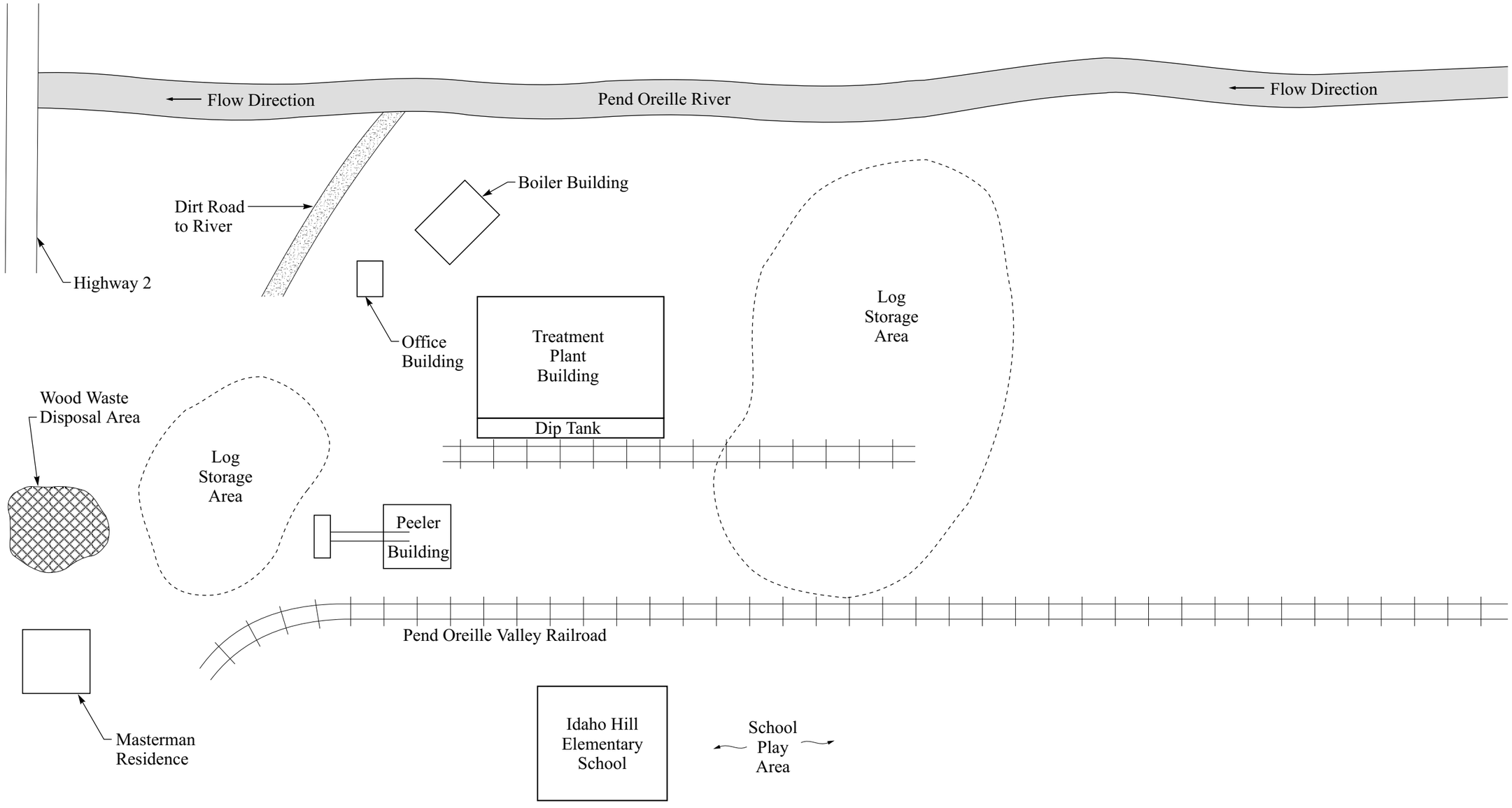
- **Idaho Hill Elementary School Air, Walls and Surface Soils.** The School is located approximately 500 feet south and approximately 30 feet higher than the PI facility. In the Fall of 2000, several School staff and community members raised concerns about a strong chemical odor emanating from the PI treatment plant area. The School may also be impacted by airborne migration of particulate contaminants. Potential contaminants of concern at the School include Pesticides/PCBs, SVOCs, TAL inorganics and VOCs.
- **Pend Oreille River Sediments.** Potential discharges from the PI facility, via the overland route or through groundwater migration, may be impacting the sediments in the Pend Oreille

River. Potential contaminants of concern are Pesticides/PCBs, SVOCs, TAL inorganics and VOCs. Seep samples were not collected from the bluff between the site and the Pend Oreille River as none were located by the START-2 field team.

- **Groundwater underneath the site.** Contaminants from the TP and treated pole storage areas may have migrated to the groundwater under the site. Potential contaminants of concern include Pesticides/PCBs, SVOCs, TAL inorganics and VOCs.
- **Nearby Residents and On-Site Workers Air and Surface Soils.** Nearby residents and on-site workers may be impacted by airborne migration of on-site contaminants from the PI facility. Potential contaminants of concern include Pesticides/PCBs, SVOCs, TAL inorganics and VOCs.



ecology and environment, inc. International Specialists in the Environment Seattle, Washington	POLES INCORPORATED Oldtown, Idaho	Figure 2-1 SITE LOCATION MAP		
	0 .25 .5 Approximate Scale in Miles	Date: 1-25-02	Drawn by: AES	10:START-2\01070007\S669\fig 2-1



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Seattle, Washington

Not to Scale

POLES INCORPORATED
Oldtown, Idaho

Figure 2-2
SITE LAYOUT MAP

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3. FIELD ACTIVITIES AND ANALYTICAL PROTOCOLS

A sampling and quality assurance plan (SQAP) was developed by the START-2 prior to field sampling (E & E 2001b). The SQAP describes the sampling strategy, sampling methodology and analytical program used to investigate potential hazardous substance sources and potential targets. The IA field activities were conducted in accordance with the approved SQAP, except as listed in the Sample Plan Alteration Forms (September 2001 and December 2001). The forms were signed by all appropriate personnel and are included in Appendix B. EPA OSCs were on-site and provided significant direction in determining sampling locations. Deviations from the SQAP were approved by the EPA and are discussed when applicable below and in Section 6 (Potential Sources) and Section 7 (Migration/ Exposure Pathways and Targets).

Phase 1 of the IA was conducted from August 20 through 31, 2001, and included air, borehole groundwater, product, sediment, sludge, subsurface soil, surface soil and wipe sample collection. A SPCC inspection was also conducted and was entered into the EPA's Lotus Notes SPCC database system by START-2 personnel (Appendix A). During the air sampling event (August 22 through 25, 2001), perimeter dust monitoring was conducted using real-time PDR™ dust monitors. Results of the dust monitoring are presented in Appendix C. Phase 2 of the IA was conducted on January 3 and 4, 2002, and included monitoring well groundwater sample collection.

A total of 72 samples (24 ambient air, eight groundwater, two product, three sediment, 32 soil and three wipe), including background but excluding QA samples (rinsate blank, trip blank, air sampling field blank and field duplicate), were collected by the START-2 from on- and off-site locations. Sample types and methods of collection are described below. A list of all samples collected for field or fixed laboratory analysis under the IA is contained in Table 3-1. Photographic documentation of IA field activities is contained in Appendix D.

In addition to the EPA-assigned regional tracking number, alphanumeric identification numbers were applied by the START-2 to each sample location (for example, PY01SS, TP05SB1, etc.) and are the sample location identifiers used in the report. Sample locations are provided on Figures 3-1 and/or 3-

2. Sample locations PY06AM and SC01WP through SC03WP (all inside the School), PY07SS (on a hillside and inaccessible with the Global Positioning System [GPS] unit) and TP01PD and TP02PD (inside the dip tank) were not GPS-located and their positions are approximated on Figure 3-2 based on field observations and measurements.

This section describes sampling methodology (Section 3.1), analytical protocol (Section 3.2), GPS data (Section 3.3), investigation-derived waste (IDW; Section 3.4) and additional information (Section 3.5).

3.1 SAMPLING METHODOLOGY

Air sample collection followed the procedures outlined in Appendix D of the SQAP (E & E 2001b). Wipe sample collection followed the procedure outlined in Section 2.2.1 of the SQAP (E & E 2001b). Sampling for soil, groundwater, sediment and surface water followed the standard operating procedures (SOPs) contained in Appendix B of the SQAP (E & E 2001b). Grass, leaves and other vegetative material, rocks and other debris unsuitable for analysis were removed from soil and sediment samples to the extent practicable before the samples were placed into appropriate containers. The portion of each sample being collected for VOC analysis was placed directly into a sample container without homogenization efforts. Sample materials for all other soil and sediment analyses were homogenized in dedicated stainless steel bowls prior to containerization. Dedicated stainless steel spoons and scoops were used to extract, homogenize and place sampled material into sample containers. All samples were stored on ice in coolers or in a START-2 dedicated sample refrigerator continuously maintained under the custody of START-2 personnel.

3.1.1 Surface and Subsurface Soil Samples from Boreholes

A total of 18 surface and subsurface soil samples were collected from the boreholes surrounding the TP. Environmental West Exploration, Inc., under subcontract to the START-2, provided drilling services, assisted in collection of soil samples from seven soil borings and installed three monitoring wells. The boring and well locations are shown in Figure 3-1, which also depicts the surface soil sample locations. Due to space restrictions, the TP shed is not shown on Figure 3-1, but the approximate location relative to the samples is provided on Figure 3-2. The subsurface investigation focused on the area surrounding the TP shed.

Field screening results for all borehole soil samples were used to determine relative TPH concentrations and to determine which samples would undergo commercial laboratory confirmation analysis. Analytical protocols are discussed in greater detail in Section 3.2. At each boring location, soil samples were collected from previously decontaminated 3-inch diameter stainless steel split-spoon samplers or from auger cuttings using dedicated stainless steel spoons and dedicated stainless steel bowls except as noted above for VOC aliquots. The augers were decontaminated between sampling locations. Surface soil samples were collected from the boreholes at 0 to 6 inches bgs. Soil was collected continuously (split-spoon and auger) from ground surface to the penetration of the groundwater table encountered at depths ranging from 76.9 to 79.5 feet below ground surface (bgs). Soil borings TP04, TP05 and TP06 were completed to depths of 85.5 feet bgs. Soil boring TP07 was completed to a depth of 80.0 feet bgs. Soil borings TP08 and TP09 were completed to depths of 85.0 feet bgs. Soil boring TP10 was completed to a depth of 79.0 feet bgs. Subsurface conditions were logged by the E & E field geologist. Soil descriptions, Unified Soil Classification System (USCS) classifications, moisture, odor, staining, organic vapor readings and other pertinent information are provided in the boring logs (Appendix E).

Discrete analytical soil samples were collected from a decontaminated split-spoon sampler. To determine representative subsurface soil contamination, an estimated two or three subsurface soil samples were planned for each borehole. The number of samples collected and actual subsurface soil sample collection depths were based on field observations of contamination during boring installation and depth to groundwater. Table 3-1 summarizes the depth of encountered groundwater and the analytical samples collected.

3.1.2 Dip Tank Product Samples

One oil sample and one sludge sample were collected to document product constituents in the dip tank after completion of the pole treatment process. START-2 personnel collected the samples by dipping sample jars into the tank and pouring the collected material into a separate sample jar for submission to the laboratory.

3.1.3 Surface Soil Samples from On-Site and Off-Site Locations

A total of 14 surface soil samples were collected from 0 to 6 inches bgs in the pole yard, at the School, at a nearby residence and at a background location to characterize potential site-related contamination from the treated poles and/or from airborne migration (Figure 3-1). Samples were collected with dedicated stainless steel spoons from areas without vegetation and were homogenized in dedicated stainless steel bowls as appropriate.

3.1.4 Groundwater Samples

Eight groundwater samples were collected during the two phases of the IA from five of the seven boreholes/monitoring wells near the TP (Figure 3-1). Groundwater samples were not collected from boreholes TP07 and TP10 at the EPA TM's direction. The boreholes were installed using a drill rig instead of the planned Geoprobe due to the information obtained while on-site that groundwater was at least 60 feet bgs instead of the previously believed 20 to 30 feet bgs. The groundwater collection techniques that were to be used for the Geoprobe boreholes were followed for the Phase 1 samples, i.e. the five Phase 1 groundwater samples were collected from open boreholes prior to well completion and development. An agreement between the EPA and IDEQ provided for well surveying and development by the IDEQ, which occurred after the Phase 1 field effort. Sample collection from the open boreholes was used to screen for the presence of contaminants prior to well development. Results for the borehole samples may be biased high due to dissolved solids in the water from the absence of well development prior to sample collection, therefore the Phase 1 groundwater results are used for screening purposes only.

Three monitoring wells (locations TP04, TP05 and TP06, also known as MW01, MW02 and MW03, respectively) were surveyed and developed after Phase 1 groundwater sample collection. Developed wells provide a more representative sample of the groundwater at the depth of the screen. In early January 2002, the START-2 collected groundwater samples from each of the monitoring wells during Phase 2 of the IA. All eight groundwater samples were collected using dedicated, disposable Teflon™ bailers. The sample aliquots were poured into pre-labeled, pre-preserved (if required) sample containers.

The monitoring wells were installed to 85.5 feet bgs with 2-inch diameter polyvinyl chloride riser pipe, screen and bottom silt trap (bottom cap). The screen length for each well was 15 feet with a 0.010

inch slot size. 10/20 washed silica sand was used for filter pack to the depth of 3 feet above top of screen. Hydrated sodium bentonite chips were used to seal above the filter pack. Each well was completed with 8 inch diameter steel flush-mount set into a 3 foot diameter concrete pad. The surface completion of all three wells was set 0.5 foot below grade to prevent well damage during snow removal.

3.1.5 Pend Oreille River Sediment Samples

Three sediment samples were collected from the Pend Oreille River (Figures 3-1 and 3-2). Sample collection was proposed to begin at the most downstream location, but due to property access concerns, the probable point of entry (PPE) and upstream samples were collected first, followed by collection of the downstream sample five days later. Sediment samples were discrete location grab samples collected from 0 to 6 inches bgs using dedicated stainless steel spoons. The VOC aliquots were collected first followed by the remaining aliquots.

3.1.6 Air Samples

A total of 24 ambient air samples were collected during three consecutive 24-hour sampling periods beginning on August 22 and ending on August 25, 2001. Samples were collected at eight locations on and near the PI Facility. One location next to the process area (PY05AM) and four locations around the perimeter of the facility (PY01AM through PY04AM) were used to characterize upwind and downwind airborne contaminant concentrations at the facility based on prevailing wind directions during each sample period. Location PY06AM was placed inside the School beneath a vent for the roof-mounted air handling system and next to Classroom 1 where wipe samples were collected. Location PY09AM was co-located with location PY01AM to provide quality assurance analysis of the air sampling data. Two locations greater than 0.25 mile from the facility, PY07AM and PY08AM, were used to characterize airborne contaminant concentrations migrating from the facility in downwind directions based on meteorological data collected prior to sample collection. The eight locations are shown in Figures 3-1 and 3-2 and further described in Section 7.4.3.1.

All air samplers were sited to conform with the probe siting criteria for ambient air samplers (Code of Federal Regulations [CFR] 1991; Appendix E) which is summarized as follows: sampler inlets were positioned 2 meters above the ground surface, at least 25 meters from the nearest traffic lane of roads near the facility and as far from on-facility traffic as possible. Samplers were placed as far away

from structures as feasible, optimally at least a distance of twice the structure's height. Electrical power sources were used for all samplers. Generators were used at locations PY01AM, PY08AM and PY09AM because electrical outlets were not available in these areas. To minimize potential contamination, the generators were located at least fifty feet downwind of the samplers based on the prevailing wind direction.

Contracted security guards provided overnight security during the sampling event. The guards reported findings to the START-2 field manager each morning. On August 24, 2001, the security guard had to chase off a trespasser on the PI property, but no sampler problems were noted. In addition, the START-2 personnel observed the following anomalies: on August 23 and 24, 2001, security vehicles were noted to be driving in the vicinity of one or more of the samplers; the guards were warned not to take vehicles close to the samplers. No significant deviations were believed to be associated with these anomalies because the vehicles were near the samplers for a short time and no dust was observed resulting from vehicle traffic. Therefore, these samples were submitted for chemical analyses and results were evaluated in Section 7.

3.1.6.1 Ambient Air Samples Analyzed for SVOCs

Samples were collected using General Metal Works, Inc. PS-1™ high volume air samplers. The samplers were operated at the highest attainable flow-rate, approximately 0.23 cubic meter per minute, resulting in approximately 300 cubic meters total sample volume in a 24-hour sample period. Actual sample volumes are provided in Appendix F. Field operation and calibration of the samplers was performed in accordance with the specifications described in EPA Method TO-13A (EPA 1997). Sample collection met the QA parameters in EPA Method TO-13A, except for sample 01344129, collected on August 24-25, 2001, at station PY09AM. The percent change in flow rate during sample collection exceeded the QA criteria, therefore the results for sample 01344129 (the co-located QA sample) were considered estimated quantities and are qualified on the Form I but are not mentioned in the validation memorandum.

3.1.6.2 Real-time Dust Measurements

During the air sampling event, PDR™ dust monitors were placed at perimeter locations PY01AM (PDR016) and PY03AM (PDR019). Data was collected when dust generation was expected

during the daily work shift but was limited due to rain and wet soil conditions on August 23 and 24, 2001. The resulting dust concentrations were generally low and similar at both sample locations, reflecting the light and variable winds measured at the facility (see Section 3.1.6.3). The dust monitoring results are presented in Appendix C.

3.1.6.3 Meteorological Station

A meteorological (MET) station was operated on-site during Phase 1 to provide continuous wind speed, wind direction, temperature, barometric pressure, humidity and 24-hour rainfall information. The MET station was located east of the treatment area (Figure 3-1) and was set up and operated in accordance with the *Quality Assurance Handbook for Air Pollution Measurement Systems: Volume IV - Meteorological Measurements* (EPA 1988b).

The MET station was operated for two days prior to the Phase 1 field event to provide prevailing wind directions and wind speed for use in determining the optimum locations of the air sampling stations. The MET station was also operated for the duration of the air-sampling event to confirm prevailing wind directions and wind speed during each sample period. Ambient temperatures and barometric pressures were used to adjust daily sample volumes to conditions of standard temperature and pressure according to the *Quality Assurance Handbook for Air Pollution Measurement Systems: Volume II - Ambient Air Specific Methods, Section 2.2.2* (EPA 1988c). Relative humidity and precipitation were recorded to document site conditions during the sampling period. MET station data are provided in Appendix F.

3.2 ANALYTICAL PROTOCOL

3.2.1 Borehole/Monitoring Well Samples

In order to delineate potential on-site contamination and to determine the need for deeper or additional borehole advancement, TPH field screening analysis was performed. Surface and subsurface soil samples collected from each interval from every on-site borehole were analyzed on-site for TPHs using field screening methodology by a START-2 chemist. Two subsurface soil samples were collected from locations that were visibly oily and were only analyzed for field TPHs at the OSCs request. Four of the 20 borehole soil samples (20 %) were submitted to a commercial laboratory for TPH confirmation analysis. All surface and subsurface soil and groundwater borehole/monitoring well samples were

submitted for the full suite of analyses, including Pesticides/PCBs, SVOCs, TAL inorganics and VOCs. This sampling strategy was approved by the EPA OSC during the field event.

Borehole/monitoring well samples submitted for fixed laboratory analysis were analyzed by Contract Laboratory Program Analytical Service (CLPAS) and/or START-2 subcontracted commercial laboratories. Phase 1 borehole samples were analyzed for Pesticides/PCBs, SVOCs and VOCs using CLPAS OLM04.2 by American Analytical and Technical Services (AATS), Baton Rouge, Louisiana; TAL inorganics using CLPAS ILM04.1 by Chemtech Consulting (Chemtech), Mountainside, New Jersey; and TPHs using EPA Method 418.1 by OnSite Environmental, Inc. (OSE) in Redmond, Washington. Phase 2 monitoring well groundwater samples were analyzed for Pesticides/PCBs, SVOCs and VOCs using CLPAS OLM04.2 by Envirosystems, Inc. (Envirosystems), Columbia, Maryland and TAL inorganics using CLPAS ILM04.1 by AATS, Broken Arrow, Oklahoma.

3.2.2 Other Samples

All other surface soil (background, residential and school) and sediment samples were submitted for analysis of Pesticides/PCBs, SVOCs, TAL inorganics and VOCs. Analyses for these surface soil and sediment samples were performed by the laboratories and according to the methods in Section 3.2.1.

Air samples were analyzed for SVOCs by Severn-Trent Laboratory (STL), West Sacramento, California, a subcontracted commercial laboratory, following EPA Methods TO-13A and 8270. Wipe and product samples were analyzed for SVOCs by OSE following EPA SW-846 Method 8270.

3.3 GLOBAL POSITIONING SYSTEM

Trimble Pathfinder Professional GPS survey units and Corvalis data loggers were used by START-2 personnel to approximate the horizontal location coordinates of most for the IA sample points (see Section 3). Sample locations shown on Figure 3-1 are based on GPS coordinates provided in Appendix G, which also includes horizontal precision and position dilution of precision information. Sample locations on Figure 3-2 are approximated based on field measurements and observations.

3.4 INVESTIGATION-DERIVED WASTE

IDW generated during the Phase 1 sampling effort consisted of several bags of solid disposable sampling and personal protective equipment, eight 55-gallon drums of well purging water and 40 55-gallon drums of drill cuttings. The solid IDW (except for drill cuttings) was double-bagged and disposed of in a

municipal landfill. No sample concentrations exceeded the toxic characteristics limits (40 CFR, Chapter I, Part 261). The Phase 1 water and soil IDW was removed from the PI facility on December 17, 2001, with incineration and disposal at the Safety-Kleen, Inc., Aragonite (Utah) facility selected as the disposal method. IDW generated during Phase 2 included one bag of solid disposable sampling and personal protective equipment and one 55-gallon drum of well purging water. The solid IDW was double-bagged and disposed of in a municipal landfill. No sample concentrations exceeded the toxic characteristics limits (40 CFR, Chapter I, Part 261). The Phase 2 water IDW is scheduled to be removed in February 2002, with the disposal method to be determined.

3.5 ADDITIONAL INFORMATION

In September 2001, a dip tank integrity study was performed by Mountain Construction Services (MCS) on behalf of PI. Seven 55-gallon drums of sludges were removed from the dip tank (F032 hazardous waste-spent formulations) prior to testing. These drums were removed by a subcontracted disposal company in November 2001 (Tinling 2001). Shear wave and digital thickness ultrasound and magnetic particle inspection tests were performed following Method AWS D1.1. Cracks that penetrated through the walls were found on center floor and southwest corner welds and on the west wall. Lengths of these cracks ranged from 0.06 inch to 1.5 inches. All welds and wall cracks were repaired by MCS after the inspection. A copy of the inspection report is provided in Appendix H. (MCS 2001)

Table 3-1

SAMPLE COLLECTION AND ANALYTICAL SUMMARY
POLES INCORPORATED
OLDTOWN, IDAHO

Sample Identification Number			Sample Collection					Sample Analysis						Sample Information	
EPA	CLP Inorganic	CLP Organic	Location ID	Date	Time	Matrix	Depth bgs	TAL Metals	VOCs	SVOCs	Pest./ PCBs	TPHs	Field TPHs	Location	Description
Air Samples															
01344101	NA	NA	PY01AM	8/23/01	0834	Air Filter	NA			X				HiVol 1 near the Metstation.	Particle filter and PUF/XAD-2® Cartridge.
01344102	NA	NA	PY02AM	8/23/01	0857	Air Filter	NA			X				HiVol 2 northeast of Treatment Plant.	Particle filter and PUF/XAD-2® Cartridge.
01344103	NA	NA	PY03AM	8/23/01	0915	Air Filter	NA			X				HiVol 3 near the Masterman residence.	Particle filter and PUF/XAD-2® Cartridge.
01344104	NA	NA	PY04AM	8/23/01	0750	Air Filter	NA			X				HiVol 4 on the north bluff outside the IHES.	Particle filter and PUF/XAD-2® Cartridge.
01344105	NA	NA	PY05AM	8/23/01	0902	Air Filter	NA			X				HiVol 5 50 feet east of the Treatment Plant.	Particle filter and PUF/XAD-2® Cartridge.
01344106	NA	NA	PY06AM	8/23/01	0730	Air Filter	NA			X				HiVol 6 near Room 1 inside the school.	Particle filter and PUF/XAD-2® Cartridge.
01344107	NA	NA	PY07AM	8/23/01	0927	Air Filter	NA			X				HiVol 7 across the Pend Oreille river.	Particle filter and PUF/XAD-2® Cartridge.
01344108	NA	NA	PY08AM	8/23/01	0813	Air Filter	NA			X				HiVol 8 0.30 miles east of Treatment Plant.	Particle filter and PUF/XAD-2® Cartridge.
01344111	NA	NA	PY01AM	8/24/01	0640	Air Filter	NA			X				HiVol 1 near the Metstation.	Particle filter and PUF/XAD-2® Cartridge.
01344112	NA	NA	PY02AM	8/24/01	0703	Air Filter	NA			X				HiVol 2 northeast of Treatment Plant.	Particle filter and PUF/XAD-2® Cartridge.
01344113	NA	NA	PY03AM	8/24/01	0718	Air Filter	NA			X				HiVol 3 near the Masterman residence.	Particle filter and PUF/XAD-2® Cartridge.
01344114	NA	NA	PY04AM	8/24/01	0610	Air Filter	NA			X				HiVol 4 on the north bluff outside the IHES.	Particle filter and PUF/XAD-2® Cartridge.
01344115	NA	NA	PY05AM	8/24/01	0709	Air Filter	NA			X				HiVol 5 50 feet east of the Treatment Plant.	Particle filter and PUF/XAD-2® Cartridge.
01344116	NA	NA	PY06AM	8/24/01	0600	Air Filter	NA			X				HiVol 6 near Room 1 inside the school.	Particle filter and PUF/XAD-2® Cartridge.
01344117	NA	NA	PY07AM	8/24/01	0738	Air Filter	NA			X				HiVol 7 across the Pend Oreille river.	Particle filter and PUF/XAD-2® Cartridge.
01344118	NA	NA	PY08AM	8/24/01	0625	Air Filter	NA			X				HiVol 8 0.30 miles east of Treatment Plant.	Particle filter and PUF/XAD-2® Cartridge.
01344121	NA	NA	PY01AM	8/25/01	0640	Air Filter	NA			X				HiVol 1 near the Metstation.	Particle filter and PUF/XAD-2® Cartridge.
01344122	NA	NA	PY02AM	8/25/01	0703	Air Filter	NA			X				HiVol 2 northeast of Treatment Plant.	Particle filter and PUF/XAD-2® Cartridge.
01344123	NA	NA	PY03AM	8/25/01	0718	Air Filter	NA			X				HiVol 3 near the Masterman residence.	Particle filter and PUF/XAD-2® Cartridge.
01344124	NA	NA	PY04AM	8/25/01	0610	Air Filter	NA			X				HiVol 4 on the north bluff outside the IHES.	Particle filter and PUF/XAD-2® Cartridge.
01344125	NA	NA	PY05AM	8/25/01	0709	Air Filter	NA			X				HiVol 5 50 feet east of the Treatment Plant.	Particle filter and PUF/XAD-2® Cartridge.
01344126	NA	NA	PY06AM	8/25/01	0600	Air Filter	NA			X				HiVol 6 near Room 1 inside the school.	Particle filter and PUF/XAD-2® Cartridge.
01344127	NA	NA	PY07AM	8/25/01	0738	Air Filter	NA			X				HiVol 7 across the Pend Oreille river.	Particle filter and PUF/XAD-2® Cartridge.
01344128	NA	NA	PY08AM	8/25/01	0625	Air Filter	NA			X				HiVol 8 0.30 miles east of Treatment Plant.	Particle filter and PUF/XAD-2® Cartridge.

Key is at the end of the table.

Table 3-1

SAMPLE COLLECTION AND ANALYTICAL SUMMARY
POLES INCORPORATED
OLDTOWN, IDAHO

Sample Identification Number			Sample Collection					Sample Analysis						Sample Information	
EPA	CLP Inorganic	CLP Organic	Location ID	Date	Time	Matrix	Depth bgs	TAL Metals	VOCs	SVOCs	Pest./ PCBs	TPHs	Field TPHs	Location	Description
Product Samples															
01344131	NA	NA	TP01PD	8/24/01	1135	Product	NA			X				Treatment Plant Dip Tank.	Black oil.
01344132	NA	NA	TP02PD	8/24/01	1145	Product	NA			X				Treatment Plant Dip Tank.	Dark brown sludge.
Wipe Samples															
01344133	NA	NA	SC01WP	8/25/01	1023	Wipe	NA			X				Wall composite 1.	4 gauze pads.
01344134	NA	NA	SC02WP	8/25/01	1032	Wipe	NA			X				Wall composite 2.	4 gauze pads.
01344135	NA	NA	SC03WP	8/25/01	1047	Wipe	NA			X				Top of fluorescent lights composite.	6 gauze pads.
Off Site Sediment and Soil Samples															
01354050	MJOK60	JOK60	SC01SS	8/26/01	1030	Soil	0-0.5 ft.	X	X	X	X			IHES-northwest area.	Brown and gray, fine, sandy, dry, some rocks.
01354051	MJOK61	JOK61	SC02SS	8/26/01	1055	Soil	0-0.5 ft.	X	X	X	X			IHES-northern bluff.	Brown, fine, dry, some organic matter and rocks.
01354052	MJOK62	JOK62	SC03SS	8/26/01	1120	Soil	0-0.5 ft.	X	X	X	X			IHES-northern fenceline.	Brown, fine, dry, some organic matter and rocks.
01354053	MJOK63	JOK63	SC04SS	8/26/01	1135	Soil	0-0.5 ft.	X	X	X	X			IHES-playground area.	Brown, fine, dry, some organic matter and rocks.
01354054	MJOK64	JOK64	SC05SS	8/26/01	1145	Soil	0-0.5 ft.	X	X	X	X			IHES-east side.	Dark brown, fine, dry, some rocks.
01354058	MJOK68	JOK68	HO01SS	8/31/01	1255	Soil	0-0.5 ft.	X	X	X	X			Masterman residence west of facility.	Brown, fine, dry, rocks.
01354059	MJOK69	JOK69	BG01SS	8/31/01	1325	Soil	0-0.5 ft.	X	X	X	X			Background-E 7th S and Meadowdale Sts.	Brown, fine, dry, rocks and organic matter.
01354060	MJOK70	JOK70	PO01SD	8/26/01	1530	Sediment	0-0.5 ft.	X	X	X	X			Pend Oreille River PPE sample.	Sandy, small rocks, moist.
01354061	MJOK71	JOK71	PO02SD	8/26/01	1545	Sediment	0-0.5 ft.	X	X	X	X			Pend Oreille River upgradient sample.	Sediment, sand, some organics, wet.
01354062	MJOK72	JOK72	PO03SD	8/31/01	1310	Sediment	0-0.5 ft.	X	X	X	X			Pend Oreille River downgradient sample.	Brown and gray, sandy, rocks, moist.

Key is at the end of the table.

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POLES INCORPORATED
OLDTOWN, IDAHO

Sample Identification Number			Sample Collection					Sample Analysis						Sample Information	
EPA	CLP Inorganic	CLP Organic	Location ID	Date	Time	Matrix	Depth bgs	TAL Metals	VOCs	SVOCs	Pest./ PCBs	TPHs	Field TPHs	Location	Description
On Site Groundwater and Soil Samples															
01354055	MJOK65	JOK65	PY01SS	8/26/01	1400	Soil	0-0.5 ft.	X	X	X	X			Pole yard surface soil sample 1.	Brown, dry, fine, some organics.
01354056	MJOK66	JOK66	PY02SS	8/26/01	1410	Soil	0-0.5 ft.	X	X	X	X			Pole yard surface soil sample 2.	Dark brown, fine, dry, some organics.
01354057	MJOK67	JOK67	PY03SS	8/26/01	1420	Soil	0-0.5 ft.	X	X	X	X			Pole yard surface soil sample 3.	Dark brown, fine, dry, some organics.
01354066	MJOK76	JOK76	TP04SS	8/27/01	1005	Soil	0-0.5 ft.	X	X	X	X		X	Treatment Plant-north of treatment building.	Coarse to fine gravelly sand, light gray to brown, dry. Petroleum/hydraulic odor.
01354067	MJOK77	JOK77	TP04SB1	8/27/01	1020	Soil	10-12 ft.	X	X	X	X		X	Treatment Plant-north of treatment building.	Fine to coarse gravelly sand, brown, moist. Sheen with mineral spirit-like odor.
01354068	MJOK78	JOK78	TP04SB2	8/27/01	1545	Soil	77.7-78.7 ft.	X	X	X	X	X	X	Treatment Plant-north of treatment building.	Fine to medium sand with 10% silt, olive brown, moist to wet.
01354069	MJOK79	JOK79	TP04GW	8/27/01	1650	Groundwater	78.7 ft.	X	X	X	X			Treatment Plant-north of treatment building.	Groundwater.
01354070	MJOK80	JOK80	TP05SS	8/28/01	1025	Soil	0-0.5 ft.	X	X	X	X		X	Treatment Plant-south of treatment building.	Coarse to fine gravelly sand, brown, dry, wood fragments.
01354071	MJOK81	JOK81	TP05SB1	8/28/01	1115	Soil	35-37 ft.	X	X	X	X		X	Treatment Plant-south of treatment building.	Fine to medium silty sand, olive brown, moist. Odor, staining, and sheen.
01354072	MJOK82	JOK82	TP05SB2	8/28/01	1220	Soil	78-79 ft.	X	X	X	X		X	Treatment Plant-south of treatment building.	Fine to coarse silty sand, reddish brown, wet.
01354073	MJOK83	JOK83	TP05GW	8/28/01	1400	Groundwater	78.6 ft.	X	X	X	X			Treatment Plant-south of treatment building.	Groundwater.
01354074	MJOK84	JOK84	TP06SS	8/28/01	1645	Soil	0-0.5 ft.	X	X	X	X		X	Treatment plant- east of treatment building.	Coarse gravelly sand, pale yellow to black, dry with wood fragments.
01354075	MJOK85	JOK85	TP06SB1	8/28/01	1730	Soil	45-47 ft.	X	X	X	X		X	Treatment plant- east of treatment building.	Fine to coarse gravelly sand with 10% silt, olive brown, dry.
01354076	MJOK86	JOK86	TP06SB2	8/29/01	0750	Soil	76-78 ft.	X	X	X	X		X	Treatment plant- east of treatment building.	Fine to medium sand, oilve brown, moist.
01354077	MJOK87	JOK87	TP06GW	8/29/01	0910	Groundwater	78 ft.	X	X	X	X			Treatment plant- east of treatment building.	Groundwater.
01354079	MJOK89	JOK89	TP07SB1	8/29/01	1305	Soil	36-37 ft.	X	X	X	X		X	Treatment plant-south of treatment building near wood treatment vessel.	Fine to coarse silty sand with gravel, brown, moist.
01354080	MJOK90	JOK90	TP07SB2	8/29/01	1435	Soil	78-79.5 ft.	X	X	X	X	X	X	Treatment plant-south of treatment building near wood treatment vessel.	Fine sand with 10% silt, light brown, moist to wet.
01354083	MJOK93	JOK93	TP08SB1	8/30/01	0730	Soil	35-37 ft.	X	X	X	X		X	Treatment plant-south of treatment building within pole processing yard.	Fine to coarse sand with 10% silt, olive brown, dry. Sheening and pungent odor.
01354084	MJOK94	JOK94	TP08SB2	8/30/01	0812	Soil	75-77 ft.	X	X	X	X		X	Treatment plant-south of treatment building within pole processing yard.	Fine to medium sand with 10% silt, olive brown, moist to wet.
01354085	MJOK95	JOK95	TP08GW	8/30/01	1400	Groundwater	76.9 ft.	X	X	X	X			Treatment plant-south of treatment building within pole processing yard.	Groundwater.

Key is at the end of the table.

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Sample Identification Number			Sample Collection					Sample Analysis						Sample Information	
EPA	CLP Inorganic	CLP Organic	Location ID	Date	Time	Matrix	Depth bgs	TAL Metals	VOCs	SVOCs	Pest./ PCBs	TPHs	Field TPHs	Location	Description
On Site Groundwater and Soil Samples (Continued)															
01354089	MJOK99	JOK99	TP10SB1	8/30/01	1645	Soil	35-37 ft.	X	X	X	X		X	Treatment plant-south of treatment building and pole processing yard.	Fine to coarse silty sand,olive brown, moist.
01354090	MJOKA0	JOKA0	TP10SB2	8/30/01	1710	Soil	77-79 ft.	X	X	X	X		X	Treatment plant-south of treatment building and pole processing yard.	Fine to coarse sand with 5% silt, yellow to brown, moist to wet.
01354091	MJOKA1	JOKA1	TP09SS	8/30/01	1040	Soil	0-0.5 ft.	X	X	X	X	X	X	Treatment plant-west of treatment building near wood treatment vessel.	Fine to coarse gravelly sand, brown, dry.
01354092	MJOKA2	JOKA2	TP09SB1	8/30/01	1110	Soil	35-37 ft.	X	X	X	X	X	X	Treatment plant-west of treatment building near wood treatment vessel.	Find to medium sand, brown/red/white, dry.
01354093	MJOKA3	JOKA3	TP09SB2	8/30/01	1210	Soil	77-79 ft.	X	X	X	X		X	Treatment plant-west of treatment building near wood treatment vessel.	Find to coarse sand with 10% silt, olive brown, moist.
01354094	MJOKA4	JOKA4	TP09GW	8/30/01	1416	Groundwater	79 ft.	X	X	X	X			Treatment plant-west of treatment building near wood treatment vessel.	Groundwater.
01354095	MJOKA5	JOKA5	PY04SS	8/31/01	1230	Soil	0-0.5 ft.	X	X	X	X			Pole yard surface soil sample 4.	Brown, fine, dry, some organics and rocks.
01354096	MJOKA6	JOKA6	PY05SS	8/31/01	1235	Soil	0-0.5 ft.	X	X	X	X			Pole yard surface soil sample 5.	Dark brown, fine, dry, some organics.
01354097	MJOKA7	JOKA7	PY06SS	8/31/01	1240	Soil	0-0.5 ft.	X	X	X	X			Pole yard surface soil sample 6.	Brown, fine, dry, some organics.
01354098	MJOKA8	JOKA8	PY07SS	8/31/01	1245	Soil	0-0.5 ft.	X	X	X	X			Area of discarded PCP cloth sack.	Brown, fine, dry.
02014000	MJO7N5	JO7N5	MW01GW	1/3/02	1500	Groundwater	77.9 ft.	X	X	X	X			Treatment Plant-north of treatment building.	Groundwater.
02014001	MJO7N6	JO7N6	MW02GW	1/3/02	1615	Groundwater	77.7 ft.	X	X	X	X			Treatment Plant-south of treatment building.	Groundwater.
02014002	MJO7N7	JO7N7	MW03GW	1/4/02	0830	Groundwater	77.6 ft.	X	X	X	X			Treatment plant- east of treatment building.	Groundwater.
QA/QC and Other Samples															
01344109	NA	NA	PY09AM	8/23/01	0833	Air Filter	NA			X				HiVol 9 - duplicate of HiVol 1.	Particle filter and PUF/XAD-2® Cartridge.
01344119	NA	NA	PY09AM	8/24/01	0641	Air Filter	NA			X				HiVol 9 - duplicate of HiVol 1.	Particle filter and PUF/XAD-2® Cartridge.
01344129	NA	NA	PY09AM	8/25/01	0750	Air Filter	NA			X				HiVol 9 - duplicate of HiVol 1.	Particle filter and PUF/XAD-2® Cartridge.
01344110	NA	NA	PY10AM	8/23/01	0900	Air Filter	NA			X				Field filter blank 1.	Particle filter and PUF/XAD-2® Cartridge.
01344120	NA	NA	PY10AM	8/24/01	0900	Air Filter	NA			X				Field filter blank 2.	Particle filter and PUF/XAD-2® Cartridge.
01344130	NA	NA	PY10AM	8/25/01	0900	Air Filter	NA			X				Field filter blank 3.	Particle filter and PUF/XAD-2® Cartridge.
01344136	NA	NA	SC04WP	8/25/01	1550	Wipe	NA			X				Wipe blank.	4 gauze pads.
01354065	MJOK75	JOK75	RB01WT	8/28/01	0925	Water	NA	X	X	X	X			Drill rig rinsate blank.	Deionized water after rinsing field equipment.
01354086	NA	JOK96	TB01WT	8/24/01	0730	Water	NA		X					Trip blank 1.	Deionized water.
01354087	NA	JOK97	TB02WT	8/24/01	0730	Water	NA		X					Trip blank 2.	Deionized water.
01354088	NA	JOK98	TB03WT	8/24/01	0730	Water	NA		X					Trip blank 3.	Deionized water.
01354099	NA	JOKA9	TB04WT	8/24/01	0730	Water	NA		X					Trip blank 4.	Deionized water.
02014003	NA	JO7N8	TB05WT	1/2/02	1300	Water	NA		X					Trip blank 5.	Deionized water.
NA	NA	NA	TP07SB-40	8/29/01	NA	Soil	40-42 ft.						X	Treatment plant-south of treatment building near wood treatment vessel.	Fine to coarse sandy gravel, dark yellowish brown, wet. Sheen and oil stained.
NA	NA	NA	TP07SB-50	8/29/01	NA	Soil	50-52 ft.						X	Treatment plant-south of treatment building near wood treatment vessel.	Fine to coarse sandy gravel, brown, moist. Sheen and oil stained.

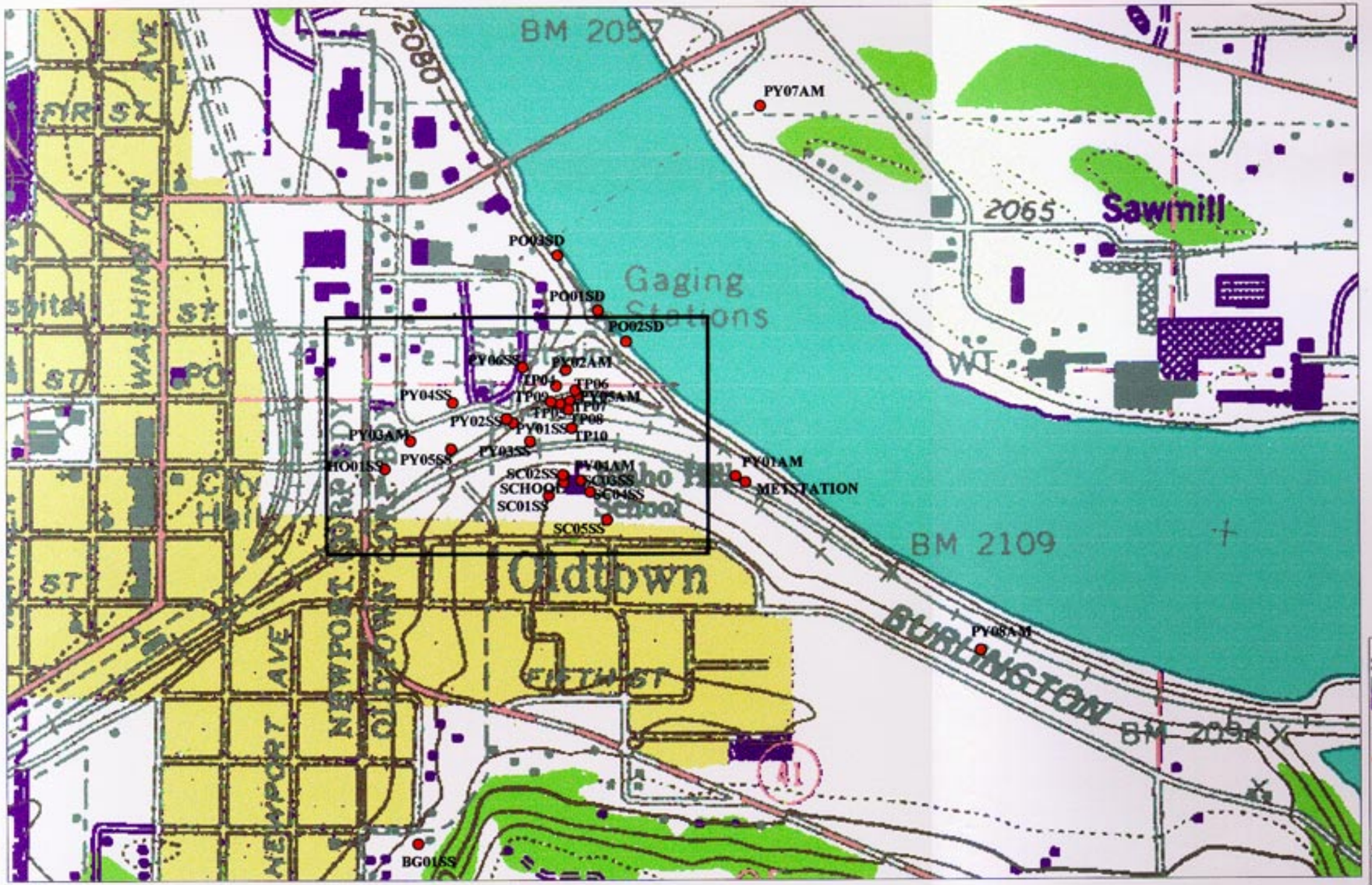
Key is on the next page.

Table 3-1

SAMPLE COLLECTION AND ANALYTICAL SUMMARY
POLES INCORPORATED
OLDTOWN, IDAHO

Key:

AM	= Air monitoring.
BG	= Background.
bgs	= Below ground surface.
CLP	= Contract Laboratory Program.
E	= East.
EPA	= Environmental Protection Agency.
ft.	= Feet.
GW	= Groundwater.
HiVol	= High volume air sampler.
HO	= House.
ID	= Identification.
IHES	= Idaho Hill Elementary School.
NA	= Not applicable.
Pest./PCB	= Chlorinated pesticide/polychlorinated biphenyl compound.
PD	= Product.
PO	= Pend Oreille River.
PPE	= Probable point of entry.
PUF	= Polyurethane foam.
PY	= Pole Yard.
QA	= Quality assurance.
QC	= Quality control.
RB	= Rinsate Blank.
S	= South.
SB	= Subsurface soil sample.
SC	= School.
SD	= Sediment.
SS	= Surface soil.
Sts.	= Streets.
SVOC	= Semivolatile organic compound.
TAL	= Target Analyte List.
TB	= Trip Blank.
TP	= Treatment Plant.
TPH	= Total petroleum hydrocarbon.
VOC	= Volatile organic compound.
WP	= Wipe.
WT	= Water.



400 0 400 800 1200 1600 Feet

0.1 0 0.1 0.2 Miles

Figure 3-1

Sample Location Map
Poles Incorporated

Old Town, Idaho

Legend

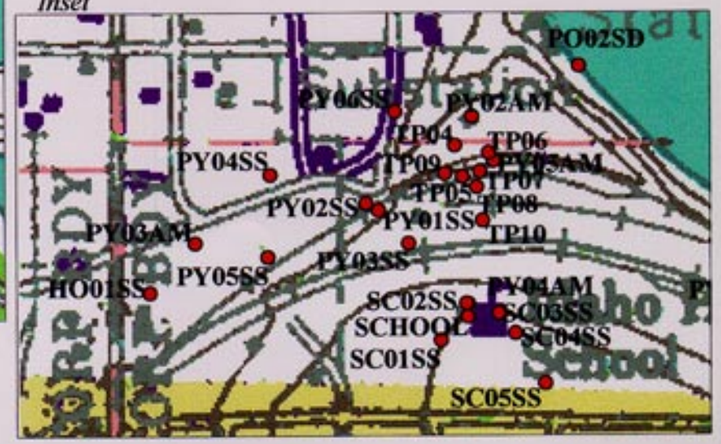
● Sample Location

N

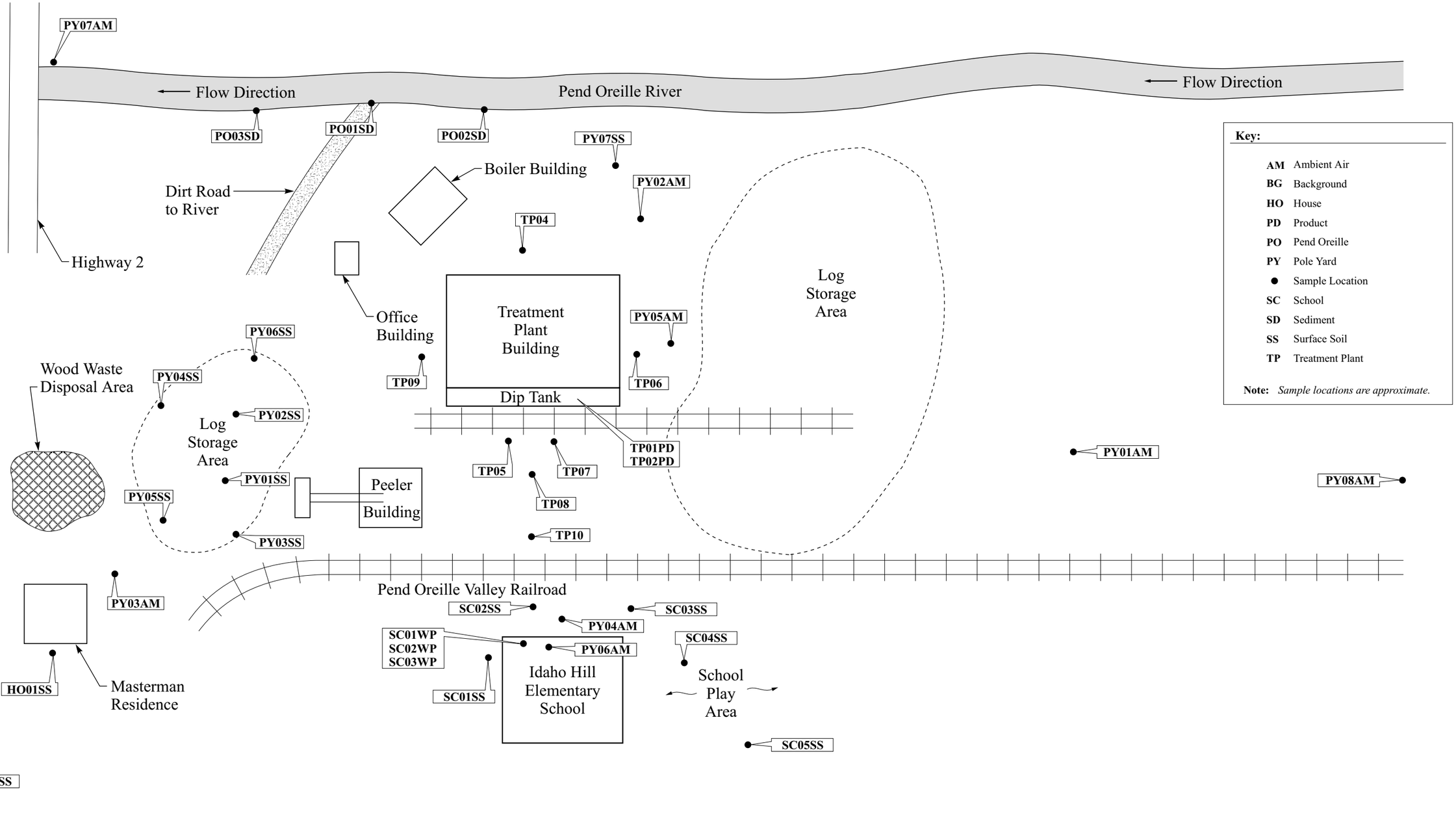
W E

S

Inset



200 0 200 400 600 800 1000 Feet



ecology and environment, inc.
International Specialists in the Environment
Seattle, Washington

Not to Scale

POLES INCORPORATED
Oldtown, Idaho

Figure 3-2
SELECTED SAMPLE LOCATIONS

Date:	Drawn by:	
2/1/02	AES	10:START-2\01070007\S669\fig 3-2